

WHAT IS CLAIMED IS:

1. A method of inhibiting binding of a chaperone protein with its client protein or client polypeptide, wherein the method comprises contacting a chaperone protein with coumarin or a coumarin derivative, such that the coumarin or the
5 coumarin derivative binds the chaperone protein, which binding inhibits the chaperone protein from binding its client protein or client polypeptide.
2. The method of claim 1, wherein the chaperone protein is heat shock protein (Hsp) 90.
3. The method of claim 1, wherein the coumarin or coumarin derivative
10 is a coumarin antibiotic.
4. The method of claim 3, wherein the coumarin antibiotic is chlorobiocin or coumermycin A1.
5. The method of claim 3, wherein the coumarin antibiotic is novobiocin.
6. The method of claim 2, wherein the coumarin or coumarin derivative
15 is novobiocin.
7. The method of claim 6, wherein novobiocin binds a carboxyl-terminal region of Hsp90.
8. The method of claim 1, wherein the client protein or the client polypeptide is a tyrosine or serine/threonine kinase.
- 20 9. The method of claim 8, wherein the client protein or the client polypeptide is tyrosine kinase p185^{erbB2} or p60^{v-src}.
10. The method of claim 8, wherein the client protein or the client polypeptide is serine/threonine kinase Raf-1.
11. The method of claim 1, wherein the client protein or the client
25 polypeptide is a mutated p53 protein.
12. The method of claim 1, wherein the client protein or the client polypeptide is inactive subsequent to binding of the chaperone protein to the coumarin or the coumarin derivative.

13. The method of claim 12, wherein the client protein or the client polypeptide is degraded.

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